

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended):

A method for shrinking the image of photoresist, the method comprising:

- a) providing a substrate;
- b) forming a photoresist layer on said substrate;
- c) exposing said photoresist layer to form a first photoresist region and a second photoresist region
wherein a first chemical material is produced within said second photoresist region;
- d) forming a chemical diffusion layer on said first photoresist region and said second photoresist region;
- e) baking said chemical diffusion layer, said first photoresist region and said second photoresist region
wherein said first chemical material is diffused into said first photoresist region to react with the material of said first photoresist region for forming a chemical reaction layer within said first photoresist region; and
- f) developing said chemical diffusion layer, said first photoresist region and said second photoresist region
to remove said chemical reaction layer and said second photoresist region.

Claim 2 (canceled)

Claim 3 (currently amended):

The method according to claim 1[[2]], wherein said first chemical material is an acid-based material.

Claim 4 (currently amended):

The method according to claim 1[[2]], wherein said first chemical material comprises a fluorine-based acid.

Claim 5 (currently amended):

The method according to claim 1[[2]], wherein said chemical diffusion layer includes[[ing]] a second chemical material.

Claim 6 (original):

The method according to claim 5, wherein said first chemical material and said second chemical material is the same.

Claim 7 (currently amended):

The method according to claim 5, wherein ~~said first chemical material of said second photoresist region and said second chemical material of said chemical diffusion layer~~ is diffused into said first photoresist region to react with the material of said first photoresist region for forming said[[a]] chemical reaction layer within said first photoresist region ~~in said baking process~~.

Claim 8 (original):

The method according to claim 7, wherein said first photoresist region shrinks in line width in said developing process.

Claim 9 (original):

The method according to claim 8, wherein said shrinking line width of said first photoresist region depends on a diffusive rate of said first chemical material.

Claim 10 (original):

The method according to claim 9, wherein said shrinking line width of said first photoresist region is controlled by the time for baking.

Claim 11 (original):

The method according to claim 10, wherein said baking process lasts about 10 seconds to 600 seconds.

Claim 12 (original):

The method according to claim 9, wherein said shrinking line width of said first photoresist region is controlled by temperature.

Claim 13 (currently amended):

The method according to claim 12, wherein the temperature in said baking process is[[lasts]] about 50 degrees centigrade to 200 degrees centigrade.

Claim 14 (currently amended):

A method for shrinking the image of photoresist, the method comprising:

- a) providing a substrate; [[F]]
- b) forming a photoresist layer on said substrate; [[F]]

c) forming a chemical diffusion layer on said photoresist layer;

d) exposing said photoresist layer to form a first photoresist region and a second photoresist region
wherein a first chemical material is produced within said second photoresist region;

e) baking said chemical diffusion layer, said first photoresist region and said second photoresist region wherein said first chemical material is diffused into said first photoresist region to react with the material of said first photoresist region for forming a chemical reaction layer within said first photoresist region; and

f) developing said chemical diffusion layer, said first photoresist region and said second photoresist region to remove said chemical reaction layer and said second photoresist region.

Claim 15 (original):

The method according to claim 14, wherein said chemical diffusion layer is transparent.

Claim 16 (canceled)

Claim 17 (currently amended):

The method according to claim 14[[16]], wherein said chemical diffusion layer includes[[ing]] a second chemical material.

Claim 18 (currently amended):

The method according to claim 17, wherein ~~said first chemical material of said second photoresist region and said second chemical material of said chemical diffusion layer~~ is diffused into said first photoresist

region to react with the material of said first photoresist region for forming said[[a]] chemical reaction layer within said first photoresist region ~~in said baking process~~.

Claim 19 (original):

The method according to claim 18, wherein said first photoresist region shrinks in line width in said developing process.

Claim 20 (original):

The method according to claim 19, wherein said shrinking line width of said first photoresist region depends on a diffusive rate of said first chemical material.